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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/538,193

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EXAMINER

GUZMAN, APRIL S

ART UNIT

PAPER NUMBER

2618

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/538,193	Applicant(s) HIRVONEN ET AL.	
	Examiner APRIL S. GUZMAN	Art Unit 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 February 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/11/05, 5/21/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

The Examiner acknowledges the receipt of the Applicant's amendment filed on 02/26/2008. Claims 1, and 17 have been amended. **Claims 1-23** are therefore still currently pending in the present application.

Response to Arguments

Applicant's arguments with respect to claims 1-23 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Mattsson et al. (U.S. Patent # 6,188,365)** herein referred to as Mattsson, and further in view of **Chen et al. (U.S. Patent Application Publication # 2002/0127971 A1)** herein referred to as Chen.

Consider **claim 1**, Mattsson teach an arrangement for testing a radio device comprising:
a waveguide closed at both of its ends (column 3 lines 30-45, and column 3 lines 58-65);
and

wherein the waveguide comprises:

one or more ridges, extending along a longitudinal axis of the waveguide, the end of at least one ridge facing the holder being bevelled (column 5 lines 57-65); and

one coupling inside the waveguide for transmission and reception of a radio-frequency signal by the use of a wideband mode of propagation (column 2 lines 38-56).

However, Mattsson fail to teach comprising a holder arranged to hold the radio device at least partly inside the waveguide in such a manner that at least portion of the radiating part of the radio device remains outside the waveguide, the at least a portion of the radiating part of the radio device remaining outside the waveguide being entirely inside the holder.

In the related art, Chen teach comprising a holder arranged to hold the radio device at least partly inside the waveguide in such a manner that at least portion of the radiating part of the radio device remains outside the waveguide, the at least a portion of the radiating part of the radio device remaining outside the waveguide being entirely inside the holder ([0027]).

Therefore, it would have been obvious to one of ordinary skill in the art the time the invention was made to incorporate the teachings of Chen into the teachings of Mattsson for the

purpose of improving testing systems for testing RF devices such as mobile phones among others.

Consider **claim 2, as applied to claim 1**, Mattsson as modified by Chen further teach wherein the end of the waveguide on the side of the holder comprises one or more pegs made from a conductive substance and fastened to the inner surface of the waveguide (Mattsson – column 4 lines 1-6; Chen – [0057]-[0058]).

Consider **claim 3, as applied to claim 2**, Mattsson as modified by Chen further teach wherein the pegs are in contact with the waveguide only at their ends (Mattsson – column 4 lines 1-6; Chen – [0057]-[0058]).

Consider **claim 4, as applied to claim 1**, Mattsson as modified by Chen further teach wherein one end of at least one peg is fastened to the same wall of the waveguide as one ridge (Mattsson – column 4 lines 1-6; Chen – [0057]-[0058]).

Consider **claim 5, as applied to claim 1**, Mattsson as modified by Chen further teach wherein absorption material is fastened to the inner surface of the waveguide at the end on the side of the holder (Mattsson – column 4 lines 1-6; Chen - [0027], [0032], and [0057]-[0058]).

Consider **claim 6, as applied to claim 5**, Mattsson as modified by Chen further teach wherein single-layered or multilayered absorption material is fastened to the inner surface of the waveguide as one or more strips (Mattsson – column 4 lines 1-6; Chen – [0032]).

Consider **claim 7, as applied to claim 1**, Mattsson as modified by Chen further teach wherein the cross-sectional shape of the holder conforms to the external dimensions of the radio device to be tested and that the length of the holder is selected in a manner preventing radio-

frequency radiation from propagating out from the end of the holder opposite to the waveguide (Mattsson – column 2 lines 38-46, and column 3 lines 10-17).

Consider **claim 8, as applied to claim 1**, Mattsson as modified by Chen further teach wherein the end of the holder opposite relative to the waveguide is closed (Chen – [0027]).

Consider **claim 9, as applied to claim 1**, Mattsson as modified by Chen further teach wherein the holder is configured to hold the radio device inside the waveguide in such a manner that the antenna part of the radio device is inside the waveguide (Mattsson – column 3 lines 30-45; Chen – [0027], [0032], and [0057]-[0058]).

Consider **claim 10, as applied to claim 1**, Mattsson as modified by Chen further teach wherein the cross section of the waveguide is selected according to the desired frequency range to be tested (Mattsson – column 4 lines 35-63).

Consider **claim 11, as applied to claim 1**, Mattsson as modified by Chen further teach wherein the arrangement comprises an electric or magnetic coupling of the radio-frequency radiation propagating in the waveguide to a measuring device (Mattsson – column 2 lines 38-56).

Consider **claim 12, as applied to claim 1**, Mattsson as modified by Chen further teach wherein the coupling is implemented by means of a probe, loop or iris (Mattsson – column 3 lines 30-58, and column 5 lines 6-22).

Consider **claim 13, as applied to claim 1**, Mattsson as modified by Chen further teach wherein the holder comprises small openings at the keys of the radio device to be tested (Chen – [0057]-[0058]).

Consider **claim 14, as applied to claim 1**, Mattsson as modified by Chen further teach wherein to the radio device to be tested is coupled a control signal that is transferred to the

device by means of a cable, and that the holder comprises a lead-in for the cable (Mattsson - column 3 lines 30-60).

Consider **claim 15, as applied to claim 1**, Mattsson as modified by Chen further teach wherein the holder is detachably attachable to the waveguide (Chen – [0027]).

Consider **claim 16, as applied to in claim 1**, Mattsson as modified by Chen further teach wherein the waveguide comprises an opening and fastening means for the holder (Mattsson – column 3 lines 30-58).

Consider **claim 17**, Mattsson teach a method of testing a radio device, wherein the radio device to be tested is mounted, the method comprising:

generating a wideband mode of propagation in the waveguide by means of at least one ridge extending along a longitudinal axis of the waveguide (column 2 lines 38-56, column 3 lines 10-23, and column 5 lines 57-65), the end of at least one ridge being bevelled (Mattsson – column 5 lines 57-65); and

transmitting and receiving radio-frequency signals by using the wideband mode of propagation between the radio device and a coupling installed in the waveguide, at least a portion of the radiating part of the radio device remaining outside the waveguide (column 2 lines 38-56, and column 3 lines 3—60).

However, Mattsson fail to teach a holder at least partly inside a waveguide closed at both of its ends and the at least a portion of the radiating part of the radio device remaining outside the waveguide being entirely inside the holder.

In the related art, Chen teach a holder at least partly inside a waveguide closed at both of its ends and the at least a portion of the radiating part of the radio device remaining outside the waveguide being entirely inside the holder ([0027]).

Therefore, it would have been obvious to one of ordinary skill in the art the time the invention was made to incorporate the teachings of Chen into the teachings of Mattsson for the purpose of improving testing systems for testing RF devices such as mobile phones among others.

Consider **claim 18, as applied to claim 17**, Mattsson as modified by Chen further teach wherein the coupling adapts the radio-frequency signal propagating in the waveguide to a coaxial cable connected to a radio frequency measuring device (Mattsson - column 3 lines 30-60).

Consider **claim 19, as applied to claim 17**, Mattsson as modified by Chen further teach further comprising transmitting and receiving radio-frequency signals between the radio device and at least one loop disposed in the waveguide, the loop transferring signal energy to a measuring device operationally coupled to the loop (Mattsson – column 3 lines 25-49).

Consider **claim 20, as applied to claim 17**, Mattsson as modified by Chen further teach further comprising transmitting and receiving radio-frequency signals between the radio device and at least one probe disposed in the waveguide, the probe transferring signal energy to a measuring device operationally coupled to the probe (Mattsson – column 3 lines 30-45, and column 5 lines 7-22).

Consider **claim 21, as applied to claim 17**, Mattsson as modified by Chen further teach further comprising performing the calibration of the test equipment by means of a reference unit having a grounded antenna circuit (Mattsson – column 5 lines 6-22).

Consider **claim 22, as applied to claim 17**, Mattsson as modified by Chen further teach wherein one or more pegs made from a conductive material are fastened to the inner surface of the waveguide at the end of the waveguide on the side of the holder (Mattsson – column 4 lines 1-6; Chen – [0057]-[0058]).

Consider **claim 23, as applied to claim 17**, Mattsson as modified by Chen further teach wherein the frequency area to be tested simultaneously comprises at least two frequency bands intended for mobile telephones (Mattsson – column 4 lines 35-63).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: see PTO-892 Notice of References Cited.

Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to April S. Guzman whose telephone number is 571-270-1101. The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Anderson can be reached on 571-272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

April S. Guzman
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/April S. Guzman/
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